

REMARKS

Claims 1, 4, 5, 7, 15, 16, 17, 18, 21-26, 32, 38-46, and 53 remain pending.

Claims 1, 4, 5, 7, 15, 17, 18, 21, 22, 24-26, 32, 38-40, 42-44, and 46 have been amended to define still more clearly what Applicant regards as his invention. Claims 2, 3, 6, 8-14, 19, 20, 27-31, and 33-37 have been canceled. Claim 53 has been added to provide Applicant with a more complete scope of protection.^{1/} Claims 1, 17, 18, 21, 22, 25, 26, and 42-44 are independent.

Claims 1-3, 12, 17-21, 26-28, 37, 42, and 43 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,600,316 to Moll; and Claims 15 and 16, as being anticipated by U.S. Patent 5,473,377 to Kim. Claims 4, 5, 29, and 30 were rejected under 35 U.S.C. § 103(a) as being obvious from Moll; Claims 7, 13, 22, 32, 38, and 44, as being obvious from Moll in view of U.S. Patent 6,501,904 to Kuroda et al.; Claims 8, 9, 33, and 34, as being obvious from Moll in view of U.S. Patent 6,144,658 to Lebizay et al.; Claims 10, 11, 35, and 36, as being obvious from Moll in view of U.S. Patent 4,456,956 to El-Gohary et al.; Claims 14 and 39, as being obvious from Moll in view of U.S. Patent 6,172,989 to Yanagihara et al.; Claims 23 and 45, as being obvious from Moll and Kuroda et al. in view of Lebizay; Claims 24 and 46, as being obvious from Moll in view of Kuroda et al. and Yanagihara et al.; and Claims 40 and 41, as being obvious from Moll in view of Kim. The Office Action does not explicitly state that Claim 25 has been rejected over Moll, but addresses that claim in the context of Moll at page 6 of the Office Action.

^{1/} Support for the added claim is found in the specification as originally filed, at least at page 12, lines 17-21.

Initially, without conceding the propriety of these rejections, cancellation of Claims 2, 3, 6, 8-14, 19, 20, 27-31, and 33-37 renders their rejections moot.

Claim 1, as amended, is directed to a method of compressing a digital format in which information representing a physical quantity is accompanied by data having a value independent of that of the information representing a physical quantity and dependent on the digital format. The method comprises an operation of removing the data, wherein the removed data can be reconstituted knowing the digital format.

Support for the subject matter of amended Claim 1 is provided throughout the specification and drawings as originally filed. According to one embodiment of the invention, the digital format is a DIF format (see, e.g., page 10, line 25 of the specification) that represents a video frame format in accordance with a DV standard (page 10, line 26), although other types of digital formats also may be within the scope of the claim. Also in accordance with an embodiment of the invention, data accompanying information representing a physical quantity may be, for example, reserved data, fixed data depending on standard options, or predictable data.

With regard to reserved data, page 11, beginning at line 7 of the specification states that some fields of a video frame are reserved, and page 11, lines 9-11 describes that the reserved data has particular values provided by the standard (valued '1' for example). This data can therefore be predicted for a given version of the standard. The data is thus independent from the values of the information representing a physical quantity and dependent on the digital format.

The reserved data is removed before transmission (see, e.g., page 13, lines 11-12 and lines 20-22). The reconstitution of the removed data is performed in accordance

with a digital format, for example, IEC 61834 or the specification of the Blue Book (page 17, lines 17-19). Consequently, the reconstitution is performed by merely setting the reserved fields to values according to what this digital format specifies (page 17, lines 27-28).

With regard to fixed data, the fourth bit of the octet ID_1 has a fixed value "0" in the Simple Definition (SD) format (page 12, lines 4-5). It is thus dependent only on the digital format. This bit is not transmitted, but is removed, in case of the SD format (during the reduction operation). At the receiver side, this bit is reconstituted knowing that the format to be received is an SD format (page 12, lines 17-21 and page 18, lines 1-2).

sub D1

As to predictable data, such data excludes repetitions. Examples of predictable data include block identifiers, wherein the value of an identifier in a sequence of blocks can be determined for a given block knowing the identifier of the first block (page 11, lines 12-14). The octet ID_2 represents the number of the DIF block in the DIF sequence (page 11, lines 32-33). This identifier is dependent on the digital format, and not on the value of the information representing a physical quantity. The identifier is transmitted, but removed (page 12, lines 9-12). It is reconstituted according to the digital format by incrementing a counter that is reset to '0' at the start of each IF sequence (page 18, lines 6-8).

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Accordingly, it can be appreciated in view of the foregoing that the present invention is directed to a method of compressing a digital format that covers several variants, as well as a combination of such variants, which include the removal of reserved fields, repetitions and/or fields that can be retrieved without ambiguity, provided that some information is shared between the sender and the receiver, such as the standard used, the

D2
cancel

options implemented, etc. See, for example, page 14, lines 20-23 of the specification, which states "the radio frame contained all the reduced video frame and its very structure makes it possible to identify, without ambiguity, the bits of the initial data frame, and their ranking"

The teachings of Moll were described in the Amendment filed on June 12, 2003. For example, as understood by Applicant, Moll relates to data compression by removing repetition and unnecessary information. The purpose of the Moll system is to minimize digital storage space or time required for transmitting digital data by eliminating repetitions, partial repetitions, and near repetitions. The information to be stored or transmitted, while not restricted to any type, may be analog of any frequency before it is converted to digital or it may be digital data of any kind. The system looks for repetition in data regardless of the data's origin. It looks for repetition, partial repetitions, and near repetition in the digital form. (See column 3, lines 5-13.) The incoming data is examined for repetitions (see column 4, line 19) by using a repeat detect circuit (see column 4, lines 54-62).

Consequently, in Moll, if no repeated pattern is found in the incoming data, no compression is performed. Therefore, Applicant urges that the Moll system gives no indication to one having ordinary skill in the art as to how to perform a compression of a digital format that does not contain a repeated pattern.

Therefore, it is clear that Moll does not teach or suggest a method of compressing a digital format in which information representing a physical quantity is accompanied by data having a value independent of that of the information and dependent

on the digital format, comprising an operation of removing the data, wherein the removed data can be reconstituted knowing the digital format, as recited in Claim 1.

For at least these reasons, Claim 1 is believed to be clearly allowable over Moll.

Each of the remaining independent claims recites features that are similar in many relevant respects to those of Claim 1 above relating to the removal of data, wherein the removed data can be reconstituted knowing a digital format, wherein information representing a physical quantity is accompanied by the data, and the data has a value independent of that of the information and dependent on the digital format. For substantially the same reasons as those given above in connection with Claim 1, Applicant respectfully submits that Moll is not seen to teach or suggest those features, and therefore those claims are believed clearly patentable over Moll.

Kuroda et al., as understood by Applicant, relates to a video signal recording apparatus which compresses video signals having different formats, and records the signals. However, nothing has been found, or pointed out in Kuroda et al., that would teach or suggest what is missing from Moll and recited in Claims 22 and 44.

For at least these reasons, Claims 22 and 44 are each believed to be clearly allowable over Moll and Kuroda et al., whether considered separately or in combination.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

This Amendment is believed clearly to place this application in condition for allowance and its entry is therefore believed proper under 37 C.F.R. § 1.116. In any event, however, entry of this Amendment, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, the Examiner is respectfully requested to contact Applicant's undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicant respectfully

requests favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



Attorney for Applicant

Registration No. 42,476

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
#392165 v1